NIST Strategy and Prioritization

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NIST Mission

To promote U.S. **innovation** and industrial **competitiveness** by advancing

What

measurement science,

standards, and

technology

How

in ways that enhance *economic security* and improve our *quality of life*

Why

Executive Office of the President

The President of the United States
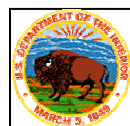
Executive Office of the President

| Office of Science and Technology Policy | Office of Management and Budget | National Security Council | NEC, HSC, DPC, CEA, OVP, etc. |

Federal Departments/Agencies

Broad National Priorities

➢ **Winning the Global War on Terror**

➢ **Defending the Homeland**

➢ **Economic Security**

FY07 Administration R&D Budget Priorities

http://www.ostp.gov/html/budget/2007/ostp_omb_guidancememo_FY07.pdf

- Homeland Security
  - *CBRN decontamination*
  - *Assessing spread of infectious diseases*
  - *Enhanced biometric systems*
  - *Secure land and maritime borders*
  - *Enhanced security systems through automation*
  - *Social and cultural dynamics of regional population groups*
  - *Safety of the food supply and agricultural systems*
  - *Social and behavioral research*
  - *Remote detection of nuclear material and/or devices*
  - *Remote detection/disabling of explosive devices*

Level of Detail Specified

- High-End Computing and Networking
- National Nanotechnology Initiative
- Priorities in the Physical Sciences
- Understanding Complex Biological Systems
- Energy and the Environment

Many Drivers
Many Opportunities

- ➢ National priorities
- ➢ DOC priorities
- ➢ Presidential and Congressional directives
- ➢ Interagency working groups
- ➢ Voice of NIST customers
  - ▪ USMS
  - ▪ Industry
    - • Prospective economic studies
    - • Council on Competitiveness, …
  - ▪ Other Agency
- ➢ Technical and advisory bodies
  - ▪ VCAT, NRC, CORM, CIRMS, …

NIST Strategies for Success

➢ Help the U.S. to drive and take advantage of the increased pace of technological change

➢ Foster more efficient transactions in the domestic and global marketplace by promoting more effective development and use of standards

➢ Address selected critical national needs assigned to NIST

➢ Enhance the effectiveness and efficiency of NIST staff by improving their well-being and by reducing administrative burdens

Strategy Implementation

➤ *Help the U.S. to drive and take advantage of the increased pace of technological change:*

- U.S. Measurement System

- Center for Nanoscale Science & Technology to bridge the gap from nanodiscovery to product

- Each OU is identifying their core competencies and ensuring adequate resources to achieve the mission

- Outreach and Communications

Strategy Implementation

➢ *Foster more efficient transactions in the domestic and global marketplace…*

- ■ More strategic approach for NIST's and the country's involvement in international standards
- ■ Looking for creative options to better align U.S. SDO interests with U.S. competitiveness
- ■ Supply chain integration

Strategy Implementation

➢ *Address selected critical national needs assigned to NIST …*

- Respond to emerging national priorities identified by the Administration or mandated by Congress
- Advance health care efficiency, cost, and quality by assisting HHS and its contractors on health IT standards
- Carry out Help America Vote Act responsibilities

Strategy Alignment

➢ **OU Program Reviews**

- Inform Director about OU core competencies and programs

- Identify critical needs

- Define OU manager's strategy for planning and operation

NIST Priorities

➢ *Consistent with Mission*: To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology – in ways that enhance economic security and improve our quality of life

➢ Address Heilmeier Questions:
  1. What is the problem, why is it hard?
  2. How is it solved today and by whom?
  3. What is the new technical idea; why can we succeed now?
  4. Why should NIST do this?
  5. What is the impact if successful and who would care?
  6. How will you measure progress?
  7. How much and how long?

Strategy Alignment

➢ **Outcomes from OU Program Reviews**

- ■ Identified core competencies
  - • Some noted as under funded
- ■ Found a variety of prioritization mechanisms in use across NIST
- ■ Identified challenges in the use of objective (quantitative) measures for prioritization

Strategy Alignment

- ➢ **New Competence And FY08 Initiative Procedures**
  - ■ More efficient mechanism to generate best and brightest ideas
  - ■ Tied to national and NIST priorities
  - ■ Better technical detail
  - ■ Provide Director flexibility in packaging
  - ■ Inclusive and open process
  - ■ Allow time for inclusion in Administration priorities

Specific Examples

- **Overview of the Strategic Planning Process in the Electronics and Electrical Engineering Laboratory (EEEL)**
  - Dr. William Anderson, Director, EEEL
- **Overview of the Strategic Planning Process in the Physics Laboratory (PL)**
  - Dr. Katharine Gebbie, Director, PL
- **Implementation of the Physics Laboratory's Strategic Plan in the Time and Frequency Division**
  - Dr. Thomas O'Brian, Chief, Time and Frequency Division, PL
- **A Vision for the NIST U.S. Measurement System (USMS) Project**
  - Dr. Dennis Swyt, Director, USMS Project

VCAT Insight

Provide lessons learned from managing organizations with multiple business units and customer bases, similar to NIST's diverse program portfolio, in response to the following questions.

➢ How do managers select and prioritize investment opportunities across diverse technologies?

➢ How do organizations implement their strategic plan? For example:

  ▪ How do managers respond to personnel whose skills no longer match the new strategic direction of the organization?

  ▪ Are there other opportunities, as opposed to in-house research, for NIST to best achieve its mission (e.g., partnerships and contracts)?